

## CLAIMS

What is claimed is:

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1. A touchpad device comprising:
- a detection array having a detection surface, wherein the detection surface is configured to receive a fingerprint image;
- a processing device configured to receive the fingerprint image or image data from the detection array, wherein the processing device configures the touchpad device to operate as a pointer control
- 10 device or a fingerprint recognition device based upon parameters associated with the fingerprint image.
2. The touchpad device of claim 1, further comprising a fingerprint platform, wherein the fingerprint platform is configured to
- 15 supply a fingerprint image to the detection surface of the detection array.
3. The touchpad device of claim 1, wherein the fingerprint platform comprises a sheet prism.
- 20 4. The touchpad device of claim 3, wherein the sheet prism is configured to focus the fingerprint image onto the detection surface of the detection array.
- 25 5. The apparatus of claim 1, wherein the touchpad device is configured to operate as a pointer control device or a fingerprint

recognition device based upon an area parameter associated with the fingerprint image.

6. The apparatus of claim 5, wherein the touchpad device is  
5 configured to operate as a fingerprint recognition device when the area parameter associated with the fingerprint image corresponds to a first area median range.

7. The apparatus of claim 5, wherein the touchpad device is  
10 configured to operate as a pointer control device when the area parameter associated with the fingerprint image corresponds to a second area median range.

8. The apparatus of claim 1, wherein the touchpad device is  
15 configured to operate as a pointer control device or a fingerprint recognition device based upon a pattern parameter associated with the fingerprint images.

9. The apparatus of claim 8, wherein the touchpad device is  
20 configured to operate as a fingerprint recognition device when the pattern parameter associated with the fingerprint image conforms to a first pattern.

10. The apparatus of claim 9, wherein the first pattern corresponds  
25 to a full fingerprint pattern.

11. The apparatus of claim 8, wherein the touchpad device is configured to operate as a pointer control device when the pattern parameter associated with the fingerprint image conforms to a second pattern.

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12. The apparatus of claim 11, wherein the second pattern corresponds to a finger-tip print pattern.

10 13. The apparatus of claim 1, wherein the processing device is configured to translate the position of the fingerprint image on the detection surface into a cursor position on an interface area of a display when the touchpad device operates as a pointer control device.

15 14. The apparatus of claim 1, wherein the touchpad device is configured to operate as a pointer control device or a fingerprint recognition device based upon both a pattern parameter and an area parameter associated with the fingerprint image.

Sub 20 15. A multi-function device comprising:  
means for supplying a fingerprint image to a detection surface of a detection array;  
means for processing the fingerprint image supplied to the detection array, wherein the means for processing configures the multi-function device to operate as a pointer control device or a fingerprint  
25 recognition device based upon parameters associated with the fingerprint image.

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16. The multi-function device of claim 15, wherein the means for processing is configured to selectively operate the multi-function device as a pointer control device or a fingerprint recognition device based upon parameters associated with the fingerprint image.

17. The multi-function device of claim 15, wherein the multi-function device is configured to operate as a pointer control device or a fingerprint recognition device based upon an area parameter associated with the fingerprint image.

18. The multi-function device of claim 17, wherein the multi-function device is configured to operate as a fingerprint recognition device when the area parameter associated with the fingerprint image corresponds to a first area median range

19. The multi-function device of claim 17, wherein the multi-function device is configured to operate as a pointer control device when the area parameter associated with the fingerprint image corresponds to a second area median range.

20. The multi-function device of claim 15, wherein the multi-function device is configured to operate as a pointer control device or a fingerprint recognition device based upon a pattern parameter associated with the fingerprint images.

21. The multi-function device of claim 20, wherein the multi-function device is configured to operate as a pointer control device when the pattern parameter associated with the fingerprint image conforms to an average finger-tip pattern.

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22. The multi-function device of claim 20, wherein the multi-function device is configured to operate as a fingerprint recognition device when the pattern parameter associated with the fingerprint image conforms to an average fingerprint pattern.

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23. A method of analyzing a fingerprint image to configure the operation of a multi-function device, comprising:

supplying a fingerprint image to a detection surface of a detection array;

analyzing select fingerprint parameters associated with the fingerprint image;

configuring the multi-function device to operate as a pointer control device or a fingerprint recognition device based upon the fingerprint parameters associated with the fingerprint image.

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24. The method of claim 23, wherein the multi-function device is configured to operate as a pointer control device or a fingerprint recognition device based upon an area parameter associated with the fingerprint image.

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25. The method of claim 24, wherein the multi-function device is configured to operate as a fingerprint recognition device when the area parameter associated with the fingerprint image corresponds to a full fingerprint image.

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26. The method of claim 24, wherein the multi-function device is configured to operate as a pointer control device when the area parameter associated with the fingerprint image corresponds to a finger-tip print image.

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27. The method of claim 23, wherein the multi-function device is configured to operate as a pointer control device or a fingerprint recognition device based upon an pattern parameter associated with the fingerprint images.

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28. The method of claim 27, wherein the multi-function device is configured to operate as a fingerprint recognition device when the pattern parameter associated with the fingerprint image conforms to an average fingerprint pattern.

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29. The method of claim 27, wherein the multi-function device is configured to operate as a pointer control device when the pattern parameter associated with the fingerprint image conforms to an average finger-tip pattern.

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30. The method of claim 23, further comprising:

translating the position of the fingerprint image supplied to the detection surface of the detection array into a cursor position on an interface area of a display when the multi-function device is configured to operate as a pointer control device.

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31. The method of claim 23, further comprising:

performing fingerprint authentication on the fingerprint image supplied to the detection surface of the detection array when the multi-function device is configured to operate as a fingerprint recognition

10 device.

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